

POLLUX

Solar LED Street Light 120W / 100W



Introducing the Pollux All in One Pro – an affordable, off-grid lighting solution designed for pathways, parking lots, roadways, trails, and remote areas without conventional power access. With a unique, integrated design that combines a solar panel, battery, and light fixture, Pollux is easy to install and eliminates the need for trenching and monthly electrical bills. Ideal for cost-effective and eco-friendly lighting solutions.

NOMINAL FLUX..... **23520 LUMENS or 19600 LUMENS**
 NOMINAL POWER..... **120 Watt or 100 Watt**

LIGHTING

Efficiency..... **196 Lumens/Watt**
 Chips LED..... **PHILIPS Luxeon 30-30 / 4000K to 5000K**
 LED Tiftime..... **Over 80 000 hours LM80**
 Optics/CCT..... **TIII / 4000K to 5000K**
 Light Height..... **From 20' To 26' Feet**

BATTERY

Technology..... **Lithium Fer Phosphate LIFEPO4**
 Capacity..... **922Wh or 794Wh**
 Autonomy..... **Over 24 hours at full charge - 4 Rainy Days back up**
 Charging Time..... **5-6 hours**
 Lifespan..... **Over 3000 CYCLES @ 80% DOD over 10 years Lifetime**
 Working Temp..... **14F to 158F - (optional -40F TO 158F)**

ENERGY

Solar panel..... **140 Watt /18V**
 Cells Type..... **Monocrystalline Panel Grade A 25 years**
 Certificates..... **IEC 61215 - IEC 61730 I and II - IEC 60904**

ELECTRONIC

Controller..... **MPPT SMART CONTROLLER (Beyond Solar Bridge Optional)**
 Sensor..... **Microwave 360° Motion Sensor**
 Cabling..... **Waterproof Connector, Plug and Play**
 Protection..... **Battery Management System (BMS)**

MECHANICAL

Pole Mounting..... **3.50" - 3"**
 Material..... **Aluminium and Stainless Steel**

DIMENSIONS PER COLARSUN

Product..... **55.35" x 22.16" x 15.11"**
 Carton Size..... **57.48" x 24.01" x 10.23"**
 Net Weight..... **49.60 LBS or 45.19 LBS**
 Gross Weight..... **60.62 LBS or 52.91 LBS**
 Qty /Ctn 20"/40'..... **122/267**
 Product Model..... **AVS-PRO-120W or AVS-PRO-100W**

Beyond Solar retains the right to modify or change product specifications without prior notice, as part of our ongoing commitment to improvement

Model #	SKU #	Fixture Height	Power	PV Type	Solar Panel	Lithium Battery	Lumens	CCT Adjustable	IP Rating	Material
AVS-PRO-120W	990107	16.5 to 23 FT	120W	MONO	105W	72WH	15680LM	4000K - 5000K	IP65	ALUMINUM
AVS-PRO-100W	990106	16.5 to 23 FT	100W	MONO	105W	62WH	11760LM	4000K - 5000K	IP65	ALUMINUM



LUMINAIRE HOUSING

LEDs

23520LM or 19600LM - 4000K TO 5000K

High pressure die-cast low-copper aluminum. Protection class (IP65). Beyond Solar uses a high quality Polyester Powder Coating from AKZO NOBEL. This powder coating provides an excellent salt and humidity resistance as well as ultra violet resistance for color retention for this product.

Our Luminaire is equipped with PHILIPS LUXEON HE PLUS High efficiency Chips offering and overall 196 Lumens per Watt efficacy.

Our luminaire also complies with the DARK SKY requirement for light pollution with an Upward lighting of 0,71%

IP65



▶ LED	3030	LED QTY (PCS)	144	LENS (PCS)	4	CRI	> 80
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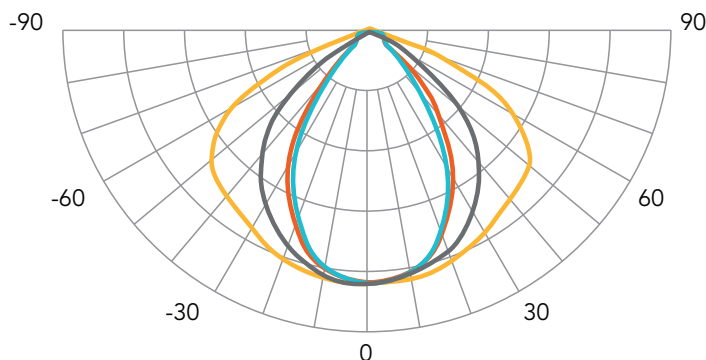
DIFFERENT OPTICS*

LIGHT DISTRIBUTION

T-III

LIGHT DISTRIBUTION CURVES

AVERAGE BEAM ANGLE (50%) : **91,2 DEG**



● C0/180,129.4°
● C30/210,96.3°

● C60/240,72.7°
● C90/270,66.4°



CORRELATED COLOR TEMPERATURE

Warm White

Neutral White

Cool White



BATTERY LIFEPO4

+ OVER 10 YEARS LIFETIME

The POLLUX is equipped with Iron Phosphate Lithium LiFePo4 battery. This technology is proved to be the best chemical technology for solar application on the market.

With a cycle life of over 3000 Cycles @ 80% DOD, the battery enjoys over 10 years lifetime.

EXTREME TEMPERATURE

14F TO 158F (-40F OPTIONAL)

When Standard Lithium LiFePo4 batteries enjoy a working temperature range from 14F TO 158F.

Beyond Solar offers as optional a new Special LIFEPO4 battery with working range of -40F. to 158F.

EASY MAINTENANCE & ANTI THEFT SCREWS

Easy and direct access to the battery casing for maintenance. The fixation are made with anti theft screws, which request special tooling to unscrew.

BMS ELECTRONIC PROTECTION BATTERY MANAGEMENT SYSTEM

Our batteries are equipped with electronic circuit boards for a higher protection, ensuring battery functioning optimization no matter the situation.

THE BMS PROTECTS AGAINST

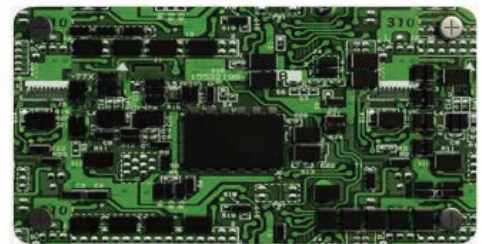
- OVER/UNDER POWER • OVERLOAD • OVER/UNDER VOLTAGE
- OVER/UNDER CHARGE • TEMPERATURE MANAGEMENT



ALUMINUM WATERPROOF CASING & NATURAL AIRFLOW

High temperatures greatly negatively affect the battery's lifespan. This is why our batteries are encapsulated in an aluminum waterproof casing for a perfect heat dissipation.

In addition to that, the casing enjoys a natural airflow which keeps the battery to ambient temperature.

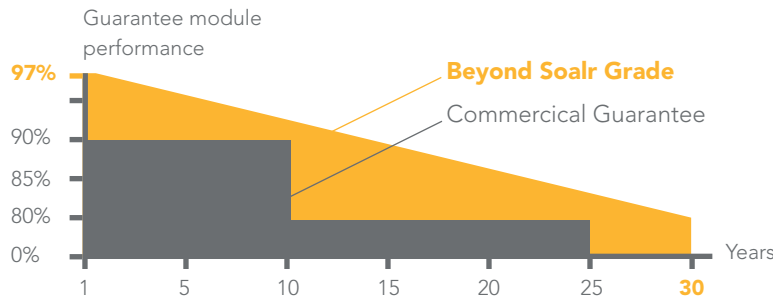


SOLAR PANEL

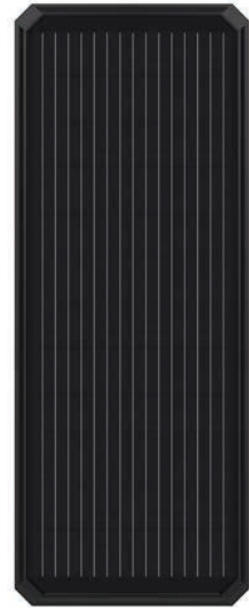
140 WATT

High efficiency mono-crystalline Solar panels. Carefully selected Grade A Solar cells. Up to 19.4% efficiency. Its octagonal Anodized aluminium alloy frame gives it a modern and elegant design as well as perfect resistance to corrosion. They are also equipped with fully waterproof Plug and Play connectors.

OUR PV PERFORMANCE GUARANTEE



Solar Cells **GRADE A**



CONTROLLER MPPT



+ WATERPROOF CONNECTORS "PLUG & PLAY"

All our components are assembled

Seamless and easy to access

In a search for performance and reliability, our products are equipped with MPPT technology controller offering the best charging efficiency on the market up to 98%

REMOTE CONTROL MONITORING

In order to facilitate all maintenance operations and above all to diagnose any possible problem, without having to intervene mechanically on the luminaire, Beyond Solar luminaires are equipped with a wireless diagnostic system via remote control



With a simple click it is possible to have real-time information such as:

- Automatic diagnosis in case of malfunction
- State of charge and battery history
- Real Time load and solar panel energy production history
- Age of the product and installation
- Temperature and its history

FEATURES

- Minimal stand-by power consumption
- Current consumption $\leq 10\text{mA}$
- Intelligent battery management

3 Phases charging:

- Charge MPPTT
- Constant voltage
- Floating voltage

- Intelligent LED driver Auto detecting of Dusk and Dawn for automatic operation, 7 Lighting Programs Configuration.
- ANTI BLACK OUT : Load adjust according to battery capacity assuring all night long lighting in any weather conditions.
- The controller also acts against
 - OVERLOAD
 - OVERCURRENT
 - OVERTEMPERATURE
 - OVERVOLTAGE / OVERLOAD
 - OVERDISCHARGE

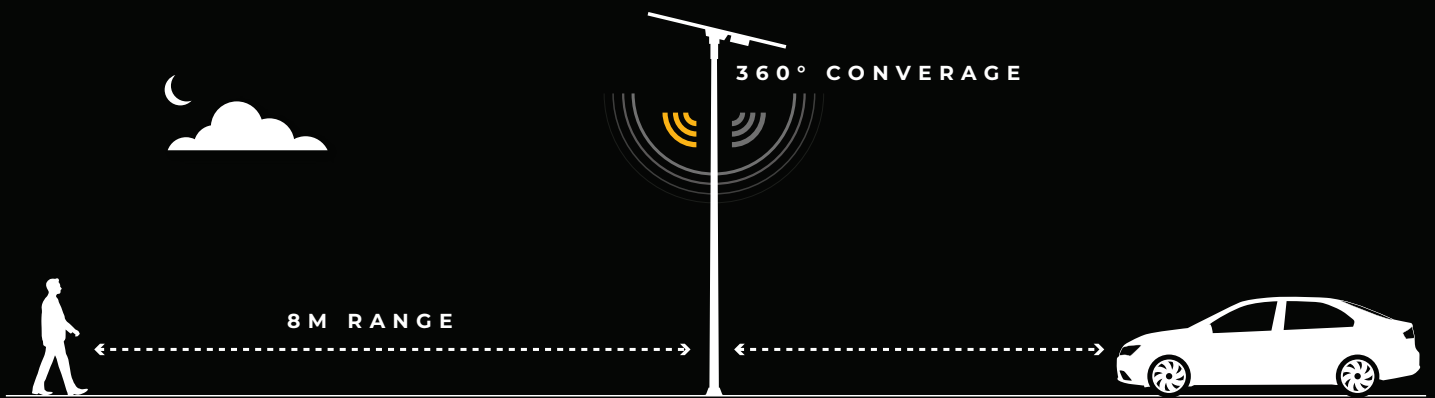


MOTION SENSOR MICROWAVE

Beyond Solar luminaires are equipped with microwave detectors that use the Doppler effect (like car radars) to detect nearby objects and measure the distance. The sensor emits a high frequency wave to reflect off of and analyze the objects in the vicinity.

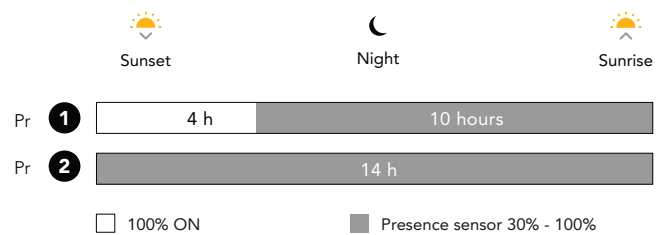
Since the microwaves only detect specific objects, detection reliability increases resulting in :

- Much better reliability compared to the Infrared detector
- Up to 360° Directivity
- Insensitivity to other environmental variations such as light, color, temperature, etc.



OPERATION MODE & LIGHTING SCHEDULE

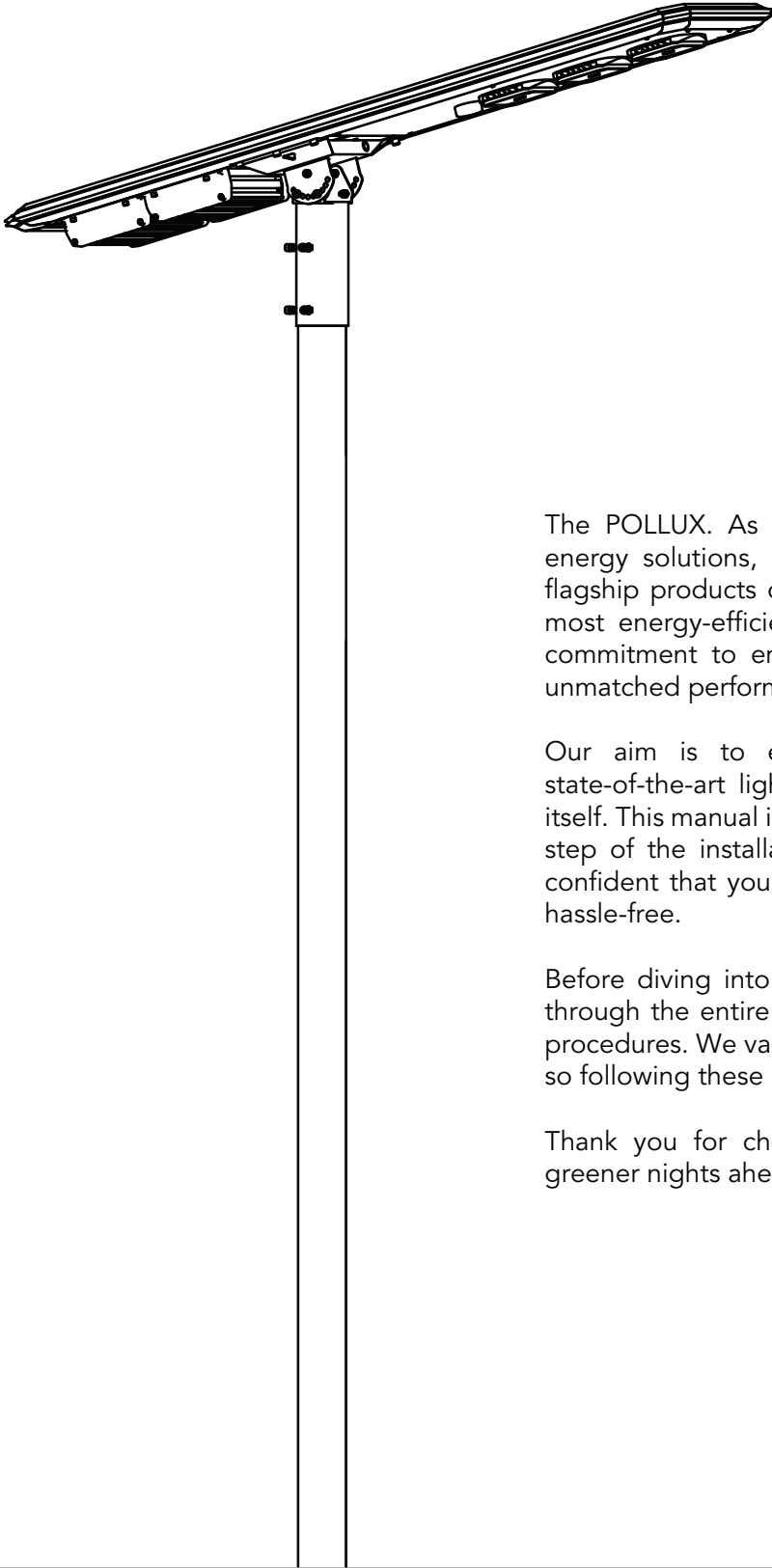
In addition to automatic switching on and off, you have the possibility of choosing among different modular operating modes according to the needs of the project



CONTACT US FOR MORE PROGRAM OPTIONS



EASY INSTALLATION



The POLLUX. As a leading innovator in the field of renewable energy solutions, Beyond Solar is proud to present one of our flagship products designed to illuminate your surroundings in the most energy-efficient way. The POLLUX not only embodies our commitment to environmental sustainability but also guarantees unmatched performance and durability.

Our aim is to ensure that the installation process of this state-of-the-art lighting system is as seamless as the technology itself. This manual is meticulously crafted to guide you through each step of the installation. Paired with detailed illustrations, we are confident that you will find the setup process straightforward and hassle-free.

Before diving into the installation steps, we recommend reading through the entire manual to acquaint yourself with the parts and procedures. We value your safety and the longevity of the POLLUX, so following these instructions carefully is paramount.

Thank you for choosing Beyond Solar, and here's to brighter, greener nights ahead!

PRODUCT MAINTENANCE AND DISPOSAL

1. CAUTIONS

To ensure the longevity and optimal performance of your POLLUX solar street light, kindly adhere to the following guidelines:

- **Handling:** Handle with care. Avoid dropping the product or placing heavy items on it.
- **Exposure:** Keep the product away from direct immersion in water. Ensure the solar panel is positioned away from the shadows of trees, buildings, etc. to maximize its efficiency.
- **Cleaning:** Avoid using cleaners that contain ammonia, benzene, or abrasive materials, as they can damage the product's surface.
- **Battery Maintenance:** For prolonged storage periods, recharge the batteries every 6 months to maintain their lifespan.
- **Parts Replacement:** Only use authentic POLLUX replacement parts. Do not substitute with parts from other suppliers as it might compromise the system's integrity and damage other components.

2. OPERATING AND STORAGE TEMPERATURE

For the POLLUX solar street light to function optimally, it's crucial to consider the temperature ranges for both operation and charging:

- **Discharge Temperature:** The product is designed to discharge effectively within a temperature range of -4 °F to 140 °F (-20 °C to 70 °C).
- **Recharge Temperature:** Ensure recharging is done within a temperature window of 32 °F to 140 °F (0 °C to 70 °C).
- **Safety Protocols:** The built-in controller has a protection mechanism. If the temperature goes below -2 °F (-10 °C) or exceeds 140 °F (60 °C), it will automatically halt charging to safeguard the battery.

To guarantee the longevity and performance of your POLLUX, refrain from installing it in areas where extreme temperature conditions surpass these limits.

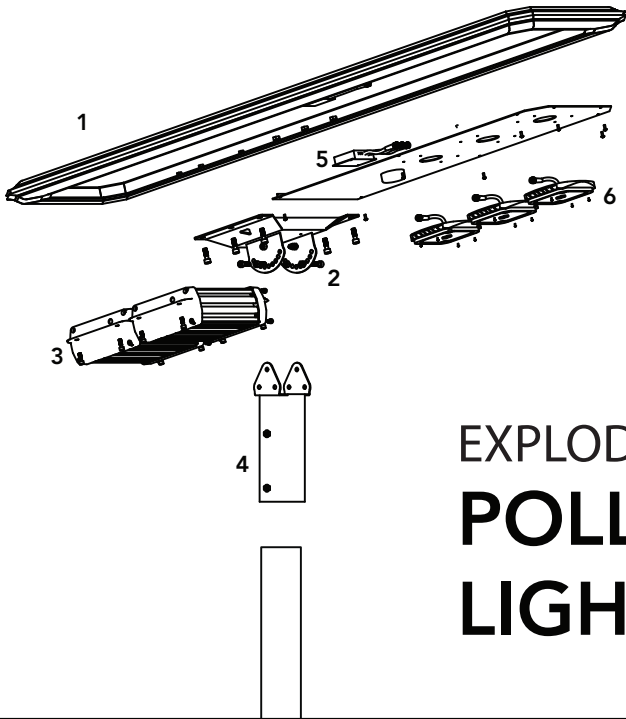
3. INSTALLATION LOCATION

Ensuring the correct location for your POLLUX solar light is crucial for its optimal operation. Adhering to the following guidelines will not only enhance its efficiency but also prolong its lifespan:

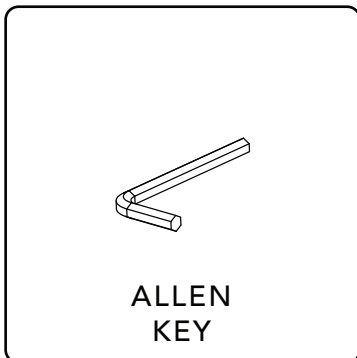
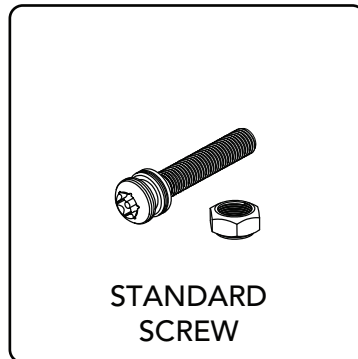
- **Sunlight Dependency:** The POLLUX system relies on sunlight to function. Make sure to select a model that matches the radiance or peak sun hours of your installation site. In regions with limited sunlight or after consecutive rainy days, the POLLUX might operate for shorter durations or may not activate at all.
- **Solar Panel Orientation:** Position the POLLUX's solar panel directly towards the sun to harness maximum solar energy. Avoid potential obstructions like trees or buildings that can cast shadows on the panel. Shadows can impede the battery's charging process and diminish the solar panel's efficiency, thereby affecting the unit's operational hours and overall battery life.

For optimal panel direction and angle, don't hesitate to seek guidance. We're always here to assist.

NOTE: The POLLUX's internal components boast an IP65 rating, ensuring they are waterproof and ready to stand up to challenging conditions. The luminaire's designed holes and slits serve dual purposes – facilitating heat dissipation and allowing for drainage. Moreover, its metal parts are crafted from anodized, rust-proof aluminum, capable of enduring both high temperatures and humid weather with ease.



EXPLODED VIEW COMPONENTS OF THE POLLUX SOLAR STREET LIGHT



In the illustration provided, you can see an exploded view of all the key components of the POLLUX.

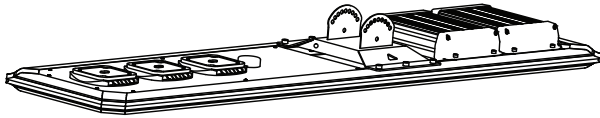
For ease of installation, only the LED Arm, LED Fixture, and Spigot need to be attached. The rest of the POLLUX comes pre-assembled, making it arguably the most straightforward solar street light to set up.

1. Solar Panel: Captures sunlight and converts it to electricity.
2. Solar Panel Support: Provides stability and holds the solar panel in place.
3. Aluminium Casing with LIFEPO4 Battery: A durable case housing the high-performance lithium iron phosphate (LIFEPO4) battery.
4. Spigot: Connects and secures the entire unit to its mounting.
5. MPPT Charge Controller.
6. LED Module: Main source of light output.

ANTI-THEFT TOOLS: ENSURES THE POLLUX REMAINS SECURELY IN PLACE AND REDUCES THE RISK OF UNAUTHORIZED REMOVAL

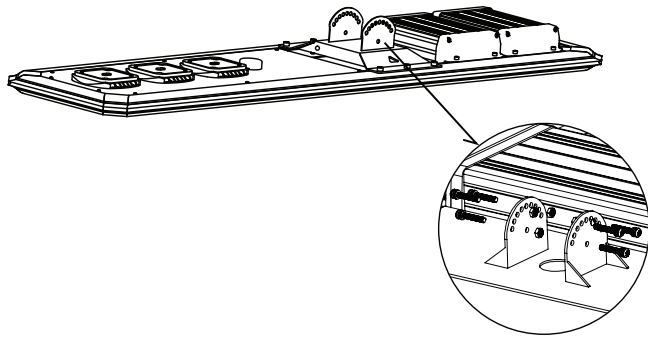
STEP 1

Carefully remove the POLLUX and the Spigot from its packaging. The Spigot can be found secured within a foam insert. Place the POLLUX securely in a stable location with the LED facing upwards towards the sky, preparing it for installation.



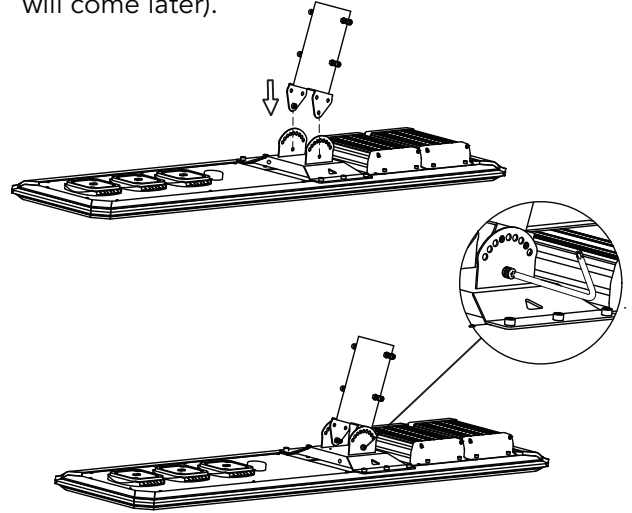
STEP 2

Using the provided tools, carefully remove the pre-installed screw from the solar panel support.



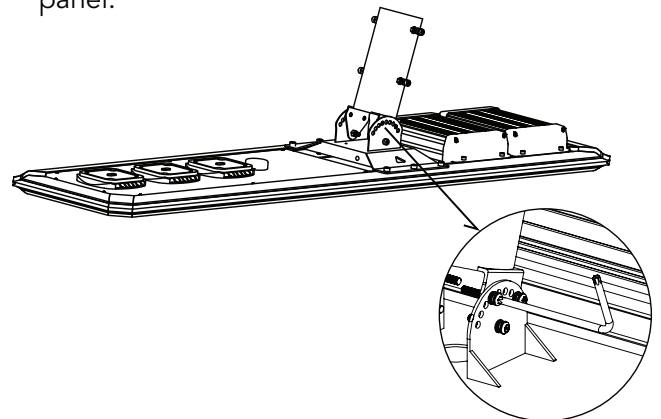
STEP 3.1

Begin by fitting the Spigot to the solar panel support. Initially, slightly fasten them together using the main central screw (final tightening will come later).



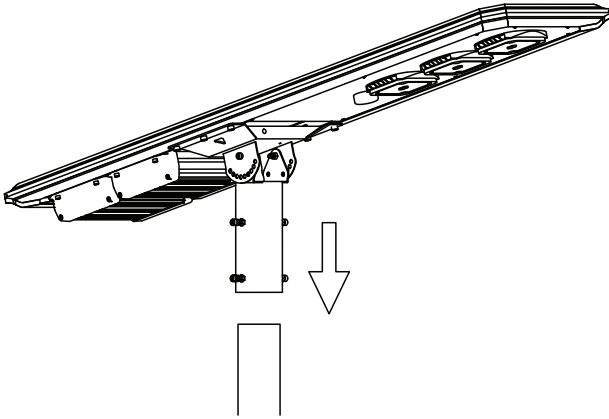
STEP 3.2

Attach the Spigot to the Solar panel using the screws you removed in Step 2. At this stage, you can choose the desired angle for your panel.



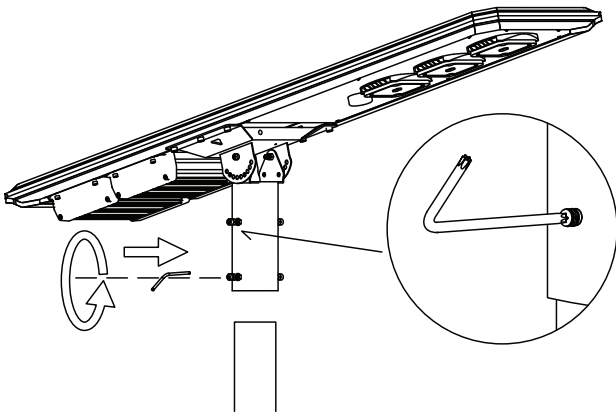
STEP 4

Position the POLLUX over the pole.



STEP 5

Using the supplied tools, securely tighten the Spigot to the pole.



STEP 6

After ensuring a secure connection, press the **"SWITCH ON"** button to activate the system. If the installation has been successful, you will notice a diode either slowly blinking or remaining steady on the movement sensor.

STEP 7

To test your light during the day, simply cover the solar panel entirely with cloth or cardboard. Your light should come on during the day for min.

INSTALLATION COMPLETE!

Your POLLUX system is now set up and operational. It is designed to function automatically, turning on at night and switching off at dawn. If the installation has been successful, you will notice a diode either slowly blinking or remaining steady on the movement sensor.

Should you have any further questions or require assistance, please don't hesitate to reach out to your reseller or directly to Beyond Solar. We're here to help!

DIMENSIONS

